

Fig. 1. — **Pseudodissochaeta raphioides** C. Hansen : plant with stamens from young bud inserted, upper one an epipetalous stamen in dorsal view, lower one an episepalous stamen in ventral view, both $\times 8$. (Poilane 26428).

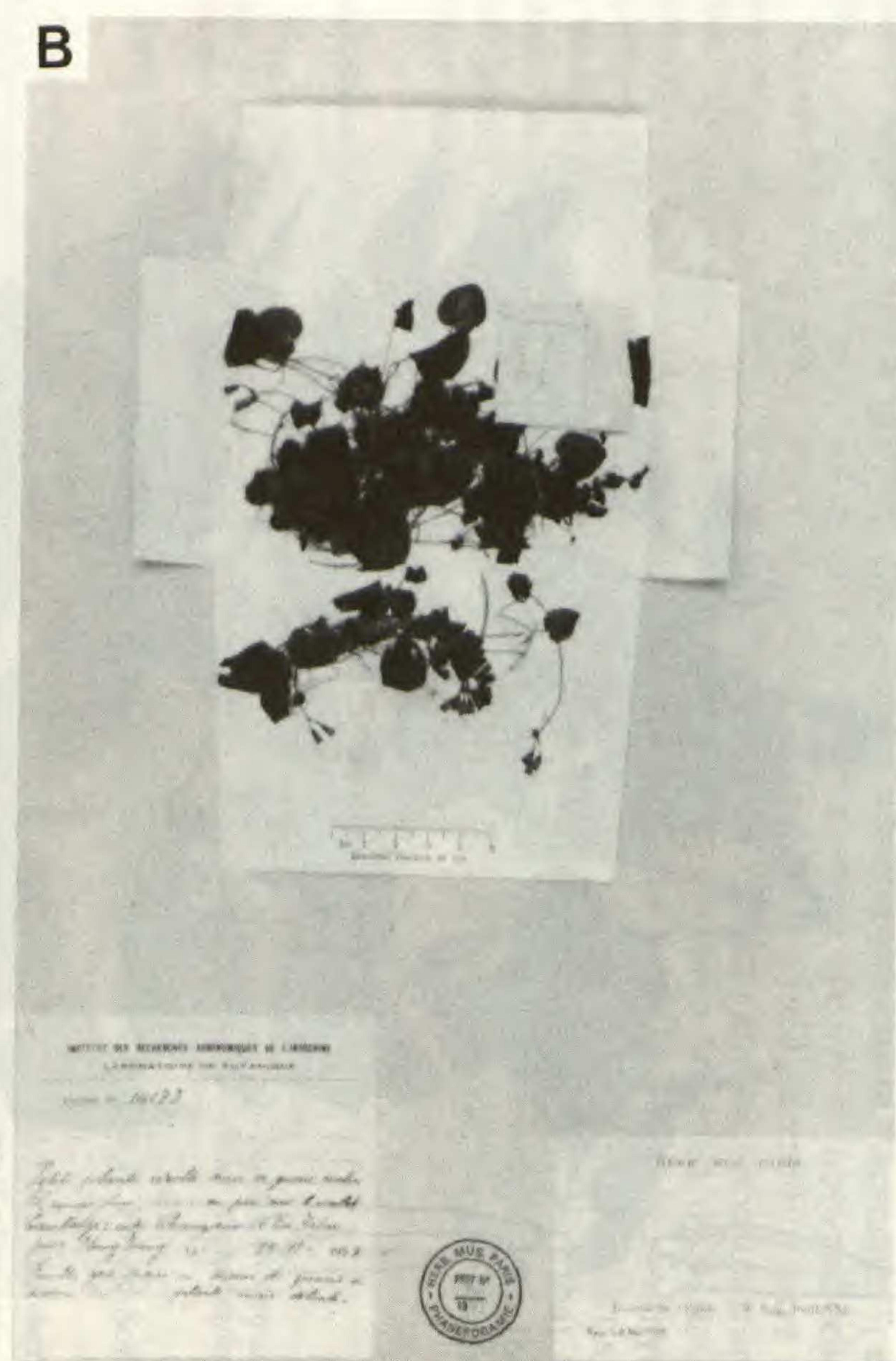


Fig. 2. — A, *Sonerila neodriessenoides* C. Hansen; B, *Sonerila tuberosa* C. Hansen.

II. TWO NEW SPECIES OF *SONERILA* ROXB. FROM VIETNAM AND CAMBODIA

Two specimens among the material of the *Sonerileae*, kindly placed at my disposal by the Laboratoire de Phanérogamie, Muséum National d'Histoire Naturelle, Paris, have appeared to represent two new species of *Sonerila*. Both are unique in the genus, *S. neodriessenoides* in its peltate hyaline glands, *S. tuberosa* in its tuberous habit.

***Sonerila neodriessenoides* C. Hansen, sp. nov.**

Frutex parvus dichotome ramosissimus foliis pusillis leviter triplinervibus aequigeminatis atque fructibus (1-)2(-3) in apice peduncolorum filiformium terminalium lectis. Glandibus minutis peltatis hyalinis 6-8-cellularibus recognabilis.

TYPE : Poilane 32537, Indochine, Annam, province du Darlac, massif du "Chu' Yang Sinh" (holo-, P).

Shrub, 50 cm high, dichotomously much-branched, with minute peltate 4-8-celled hyaline glands on all younger vegetative parts and an additional indumentum only on leaf margin. Branchlets slender, 4-angular and 4-ribbed, purplish brown; ribs confluent two and two in a U-shaped way just above nodes, swollen on older branches and finally disappearing; internodes 0.5-1.2 cm long. Leaves opposite, decussate, isomorphic and equal in a pair; petiole 0.4-1 cm long; blade elliptic, 1.5-2.2 × 0.9-1.2 cm; base and apex acuminate, margin revolute, entire basally, with 4-5 distant teeth passing into a short hair distally; 3-plinerved with lateral nerves diverging 0.5-1 mm above base, nerves indistinct above, distinct below but lateral ones only in basal two thirds of leaf. Flowers unknown. Infructescence 3 cm long, with (1-)2(-3?) fruits together at the end of a ca. 1.5 cm long filiform peduncle. Old fruit 3-merous, cup-shaped, triangular, 3.5 × 2.5 mm, composed of the hypanthium persistent except for upper narrow rim, and of the dehisced capsule with the accrescent wedge-like valves slightly exceeding hypanthium and surrounding an apical obpyramidal depression. — Old fruits in April. — Fig. 2, A.

HABITAT : Granitic soil covered with old forest at more than 2000 m altitude.

DISTRIBUTION : Vietnam (Annam), known only from the type collection.

NOTES : *S. neodriessenoides* is the first species of *Sonerila* in which hyaline glands are known, and it may be recognized solely by their presence. Such glandular hairs in a number of other genera have been treated by HANSEN (1985). The glands in *S. neodriessenoides* are peltate and 4-8-celled, and resemble very much those in *Neodriessnia* Nayar (HANSEN, 1985, fig. 1, C).

Half of the infructescences available has one fruit left, the other half has two fruits, but most have an additional scar, so there may have been up to three flowers. There seems to have been no definite arrangement, but a much reduced scorpioid cyme is the more likely type of inflorescence.

The uppermost rim of the hypanthium perishes at or after the dehiscence of the fruit. The dissection of the fruit showed that most of each valve was adnate to the hypanthium, but also that a narrow marginal part was free, where the anther pockets were. Their depth was not observable.

The central column is beaked, and the beak is entire. The placentas are narrow vertically elongated ridges, sessile above becoming stalked towards the base.

Sonerila tuberosa C. Hansen, sp. nov.

Herba altitudine paucorum centimetrorum tubere parvo cum indumento denso crasso pilorum crisporum bruneolorum unde emergunt aliqua folia sessilia vel subsessilia valde reducta et plus minusve transformata cum setis marginalibus rufescentibus longis, pauca folia normalia longepetiolata et cyma scorpioidea scaposa.

TYPE : *Poilane 14173*, Cambodge, prov. : Stung Treng, entre Changoeur et Ta Tran (holo-, P).

Acaulescent herb, ca. 6 cm high. Rhizome a slightly bulb-shaped tuber, 2-4 mm long and wide, completely covered with a dense 0.5 mm thick layer of pale brown intertwined curly hairs from which emerge singly at various places either much reduced leaves (several a tuber), or ordinary leaves (1-2 a tuber) or scapose inflorescences (1(-2?) a tuber). Reduced leaves sessile or short-petiolate, very broadly cordate to reniform, ca. 1-5 mm long and wide, reddish brown, with very conspicuous 1-3 mm long reddish brown bristles on margin (ciliate) and sometimes also above and below, or sometimes with an indumentum intermediate between this and that of ordinary leaves. Ordinary leaves with a petiole of 3-4 cm, very broadly ovate to orbicular, ca. (0.5-)1.6-2 cm long and wide; base very broadly cordate, apex very broadly rounded, margin entire to subdenticulate; 7-nerved, all nerves indistinct and only middle one reaching apex; petiole and blade with up to 3 mm long thin curly whitish hairs, sparsest on blades above. Peduncle ca. 5 cm long passing into an up to 2 mm long few- to several-flowered scorpioid cyme, elongating to 10 mm long in old fruit, peduncle and scorpioid branch clothed as leaves; bract subtending inflorescence similar to reduced leaves on tuber, or much more reduced, bracts subtending flowers reduced to long reddish brown bristles; pedicel from 3 mm long in flower to 5 mm long in old fruit, glabrous. Flowers 3-merous, actinomorphic, bisexual. Hypanthium narrowly campanulate, ca. 3.5 × 1 mm, subtriangular, thin-walled, glabrous. Sepals triangular, pointed into a short bristle, connate for 0.1 mm, lobes 0.8 mm long, glabrous, persistent in mature fruit. Petals elliptic, 5 × 2.7 mm, apiculate, thin, pink. Stamens 3; filaments 4 mm long, glabrous; anthers narrowly ovate and tapering in lateral view, narrowly triangular with a cordate base in ventral view, 3.9 mm long, yellow, connective indistinct, inappendiculate, pore 1 (or incompletely 2) on ventral side of apex. Ovary 3-locular, three quarters the length of hypanthium crown excluded and adnate to it for most of its length, anther pockets uncertain, but at least not deep, crown of 3 thin not connate lobes, top of ovary and crown glabrous; placentas sessile vertically much elongated ridges. Style ca. 8 mm long, glabrous, stigma inconspicuous. Mature fruit turbinate, ca. 4.5 × 1.5 mm, triangular, all parts thin, sepals dull brown, hypanthium glossy light greyish brown on apical half, wrinkled and dull brown on basal half. Seeds obovate, rounded, ca. 0.3 mm long, slightly rough, minutely beaked, light brown, with a wide oblique raphal area basally, strophiole inconspicuous, brown.

— Flowers and fruits in November. — Fig. 2, B; 3.

HABITAT : Collected below large rocks.

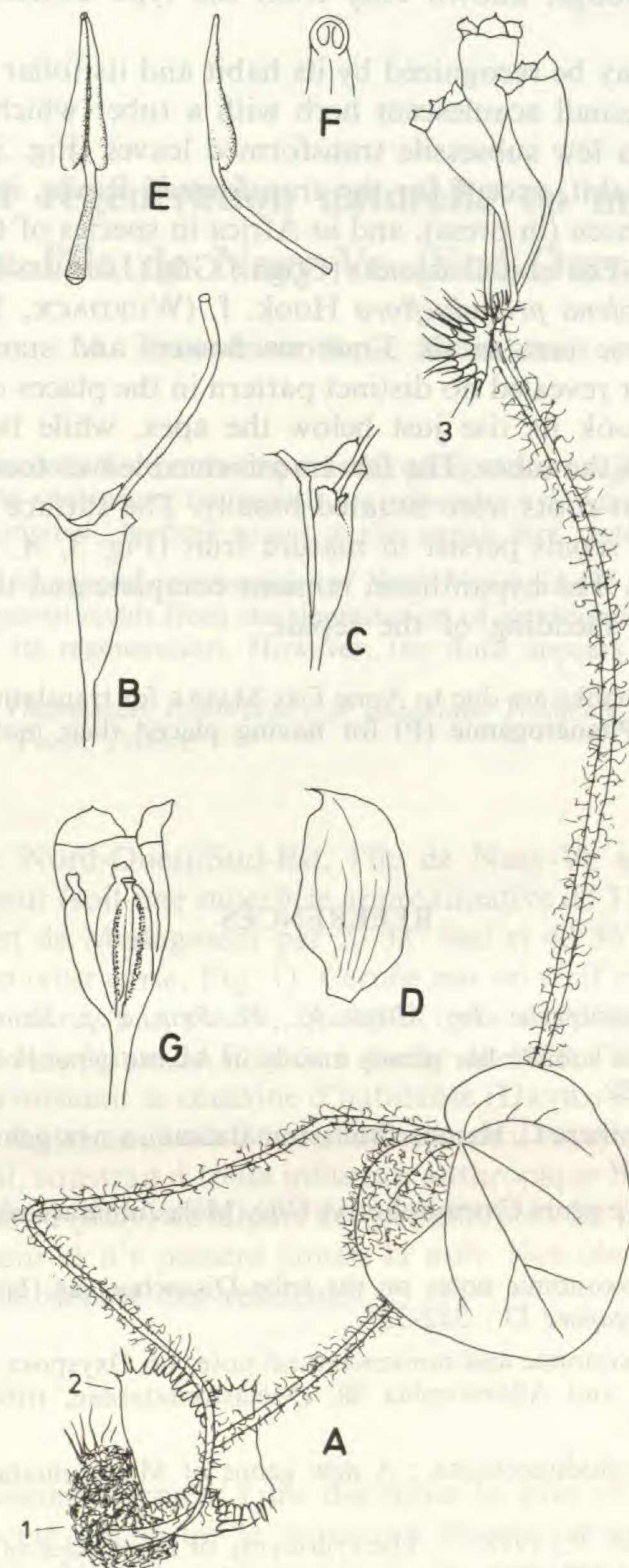


Fig. 3. — **Sonerila tuberosa** C. Hansen : A, whole plant with mature fruits; 1, tuber covered with dense indumentum, 2, transformed leaf (folded), 3, bract; B, flower with petals and stamens removed; C (as B, but one side of hypanthium removed), showing top of ovary with crown lobes; D, petal; E, stamen, ventral and lateral views; F, apex of anther, ventral view; G, fruit (one side of hypanthium removed), showing the placental column with the ridge-like placentas (A, $\times 2.5$; B-E & G, $\times 4$; F, $\times 16.5$).

DISTRIBUTION : Cambodge, known only from the type collection.

NOTES : *S. tuberosa* may be recognized by its habit and its foliar dimorphism (Fig. 3, A).

S. tuberosa is a very small acaulescent herb with a tuber which produces 1(-few) long-petiolate ordinary leaves, a few subsessile transformed leaves (Fig. 3, A2) and 1(-2) scapose scorpioid cymes. Such a habit, except for the transformed leaves, is known in Asia only in *Tylanthera tuberosa* C. Hansen (in press), and in Africa in species of *Cincinnobotrys* Gilg, e.g., *C. pulchella* (Brenan) Jacq.-Fél. and *C. acaulis* (Cogn.) Gilg (JACQUES-FÉLIX, 1976). In America it seems to occur in *Monolena primulaeflora* Hook. f. (WURDACK, 1980, fig. 9). *S. tuberosa* differs markedly from these taxa in its 3-merous flowers and staminal morphology.

The study of one tuber revealed no distinct pattern in the places of insertion of leaves and inflorescence. The latter took its rise just below the apex, while two ordinary leaves were inserted close to the base of the tuber. The few transformed leaves took their rise at apparently random places. A few stout roots were situated basally. The surface of the tuber was smooth.

The hypanthium and sepals persist in mature fruit (Fig. 3, A, G). After dehiscence no further changes take place. The hypanthium remains complete and thin until a general decay starts beginning with the shedding of the sepals.

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Végétation et régénération naturelle en milieu xérique : exemple de l'île de Nosy-Ve (Sud-Ouest malgache)

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Résumé : Inventaire de la flore et description des groupements végétaux de l'île. Origine possible de l'état actuel de la végétation, qui semble correspondre à des stades dégradés et persistants du fourré xérophile originel ; la flore quant à elle paraît être restée à peu près intacte.

Summary : Flora and vegetal communities of Nosy-Ve island are described. At the present day, the vegetation seems to result from the degradation of an original xerophilous thicket without any possibility of its regeneration. However, the flora appears about undamaged.

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Etirée selon un axe Nord-Ouest/Sud-Est, l'île de Nosy-Ve mesure environ 1400 m de longueur et 350 m de largeur (soit une superficie approximative de 31 ha) et culmine à 9 m. Elle se situe dans le Sud-Ouest de Madagascar par 23°38' Sud et 43°36' Est, à 4 km de la côte au large du village d'Anakao (voir carte, Fig. 1). Cernée par un récif corallien, elle est constituée essentiellement de sables avec, par places, quelques grès de plage.

Occupée par la Vice-Résidence de France à partir de 1888, l'île fut abandonnée en 1897 alors que sa population avoisinait la centaine d'habitants (DAVID, 1939). Depuis cette époque, l'île est restée inoccupée. Aussi nous a-t-il paru intéressant d'essayer de voir le comportement de son peuplement végétal, soustrait à toute influence anthropique depuis près d'un siècle : l'île est en effet l'objet d'un tabou (*fady*) de la part des populations ; les pêcheurs y faisant escale ne pénètrent guère à l'intérieur et n'y passent jamais la nuit. Nos observations ont été faites en 1987, soit 90 ans après le départ des résidents.

LE MILIEU

Nosy-Ve occupe vraisemblablement l'une des zones les plus sèches de Madagascar : c'est en effet à Anakao qu'a été enregistré le minimum pluviométrique du pays avec 235 mm (KOECHLIN et al., 1974, p. 246). A cette pauvreté des précipitations s'ajoute leur grande irrégularité : non seulement de fortes variations pluviométriques s'observent d'une année à l'autre, mais encore les pluies peuvent se produire à n'importe quelle période de l'année, généralement sous formes d'averses brèves et violentes. Cette aridité est encore aggravée par deux facteurs :

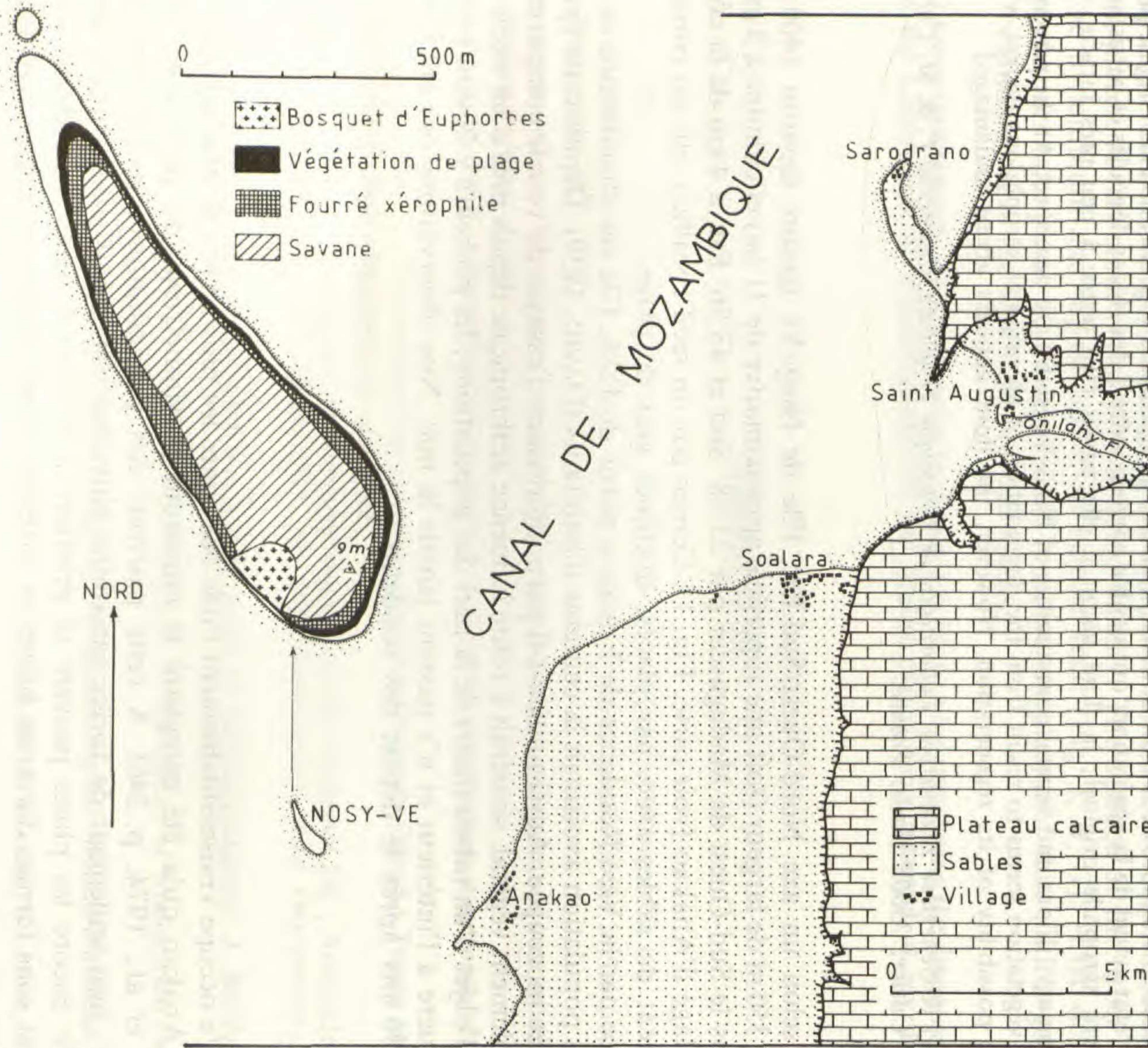


Fig. 1. — Carte de localisation de l'île de Nosy-Ve et répartition de ses groupements végétaux.

